

**MAGNETIC SEPARATOR FOR LINEAR DISPERSION AND METHOD
FOR PRODUCING THE SAME**

Abstract of the Disclosure

A magnetic sector for charged particle beam transport that includes a magnetic field profile that achieves a linear dispersion from a collimated beam of charged particles proportional to their mass-energy-to-charge ratio. In one embodiment, the field profile necessary for the linear dispersion is obtained by the use of shaped, highly permeable poles powered by permanent magnets or electromagnetic coils.

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